UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
PATEL, HARESH N

ART UNIT	PAPER NUMBER
2126	5

DATE MAILED: 10/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

IR4

	Application No.	Applicant(s)
Office Action Summary	09/675,033	BIRMINGHAM, BLAIR B.A.
	Examiner	Art Unit
	Haresh Patel	2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>25</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-25</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) ☐ Other: .

DETAILED ACTION

1. Claims 1-27 are presented for examination.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility

application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include
the following sections in order. Each of the lettered items should appear in upper case, without
underlining or bold type, as a section heading. If no text follows the section heading, the phrase
"Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR
DEVELOPMENT.
(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A
COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program
listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables
having more than 50 pages of text are permitted to be submitted on compact
discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a).
"Microfiche Appendices" were accepted by the Office until March 1, 2001.)
(e) BACKGROUND OF THE INVENTION. ·
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97
and 1.98.
(f) BRIEF SUMMARY OF THE INVENTION.
(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(h) DETAILED DESCRIPTION OF THE INVENTION.
(i) CLAIM OR CLAIMS (commencing on a separate sheet).
(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence
Listing" is required on paper if the application discloses a nucleotide or amino
acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence
Listing" is not submitted as an electronic document on compact disc).

The disclosure is objected. Some of the informalities are:

    i.   <u>All the known prior art contents from the "DETAILED DESCRIPTION</u>

<u>OF THE INVENTION" section needs to be moved into the "Description of</u>

<u>Related Art" sub-section of the "BACKGROUND OF THE INVENTION"</u>

<u>section.</u>

    ii.   The sub-section "Description of Related Art" of the "BACKGROUND OF

THE INVENTION" section must contain all known prior arts. <u>This sub-section</u>

<u>lacks known prior art information, which is used in the dependent claims, like, the</u>

<u>details of the functionality of the appliance operating system.</u>

Appropriate correction is required.

Information Disclosure Statement

3.   Applicant and the assignee of this application are required under 37 CFR 1.105 to

provide the following information that the examiner has determined is reasonably necessary to

the examination of this application. As stated in the filed of the invention " The present

invention relates generally to information handling systems and <u>more particularly to using</u>

<u>multiple operating systems within a single information handling system</u>", the invention is not the

creation of the operating systems (both, appliance and general operating system) from scratch,

hence applicant must submit the know prior arts for the appliance and general operating systems.

In response to this requirement, please provide the title, citation and copy of each

publication that is a source used for the description of the prior art in the disclosure. For each

publication, please provide a concise explanation of that publication's contribution to the

description of the prior art.

This Office action has an attached requirement for information under 37 CFR 1.105. A

complete reply to this Office action must include a complete reply to the attached requirement

for information. The time period for reply to the attached requirement coincides with the time

period for reply to this Office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 1, 2, 4, 5, 7, 8-10, 13, 14, 18, 22 and 26 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Lee et al. 6,327,653 (Hereinafter Lee) in view of applicant's admitted

prior art (AAPA).

5.   As per claims 1, 2, 4, 5, 7, 8-10, 13, 14, 18, 22 and 26, Lee teaches the following:

a method comprising,

a computer readable medium tangibly embodying a plurality of instructions said plurality

of instructions including,

an information handling system comprising:

providing a plurality of operating systems on a single information handling device (e.g.,
A technique for easily changing an operating system or working mode of a digital computer
system, abstract),

the plurality of operating systems including an appliance operating system to control the
information handling device to operate an appliance (e.g., For example, in personal computers
(PCS), changing the operating system is effected between executing application programs under
a disk operating system (DOS) of a text mode and executing application programs under
Windows 95 or 98, a PC function and a settop box function, a PC function and a network
terminal function, and a PC function and a television function, col. 1, lines 39 – 45),

a general operating system to perform general information handling tasks (e.g., For
example, in personal computers (PCS), changing the operating system is effected between
executing application programs under a disk operating system (DOS) of a text mode and
executing application programs under Windows 95 or 98, a PC function and a settop box
function, a PC function and a network terminal function, and a PC function and a television
function, col. 1, lines 39 – 45),

appliance operating system is independent of the general operating system (e.g., For
example, in personal computers (PCS), changing the operating system is effected between
executing application programs under a disk operating system (DOS) of a text mode and
executing application programs under Windows 95 or 98, a PC function and a settop box
function, a PC function and a network terminal function, and a PC function and a television
function, col. 1, lines 39 – 45),

executing the general operating system to control the information handling device to

perform general information handling tasks (e.g., For example, in personal computers (PCS),

changing the operating system is effected between executing application programs under a disk

operating system (DOS) of a text mode and executing application programs under Windows 95

or 98, a PC function and a set-top box function, a PC function and a network terminal function,

and a PC function and a television function, col. 1, lines 39 – 45),

executing appliance operating system and general operating system concurrently (e.g.,

The present invention relates to a technique for enabling a digital computer system to easily

change its operating system or working mode and, more particularly, to a technique for enabling

a digital computer system to easily change its operating system while under a different operating

system or to easily change its working mode under the same operating system, col. 1, lines 25 –

31),

switching between operating systems (e.g., The computer system includes a plurality of

operating systems, and OS switching unit for switching a plurality of operating systems. The OS

switching means makes reference to a preferential interrupt table on the basis of an interrupt

factor for switching to corresponding operating system and calls interrupt processing means

incorporated in the operating system, abstract),

a data processor (e.g., processor, figure 1);

a bios to provide initial processor control (e.g., The control program is a POST (power on

self test) of a BIOS (basic input output system) program within the ROM in a personal computer,

col. 1, lines 25 – 31),

a memory coupled to said processor (e.g., main memory, figure 1) and

a communications interface (e.g., bus, figure 1).

executing the appliance operating system includes reading the appliance operating system

from a non-volatile memory circuit; and executing the general operating system includes reading

the general operating system from a mass storage device (e.g., usage of RAM, ROM and backup

memory, figure 1, abstract),

said bios is to control which of said plurality of operating systems is executed (e.g.,

While the boot program executes, an user executes an application program by selecting one

operating system, that is, one operating system from among many kinds of operating systems,

col. 2, lines 6 – 30),

said one or more appliances are media handling systems (e.g., television, col. 1, lines 39

– 45),

said one or more media handling systems include at least one of an audio device and a

visual device (e.g., television, col. 1, lines 39 – 45).

However, Lee does not specifically teach executing the appliance using the operating

system.

AAPA teaches the following:

executing the general operating system to control the information handling device to

perform general information handling tasks (e.g., general operating system to handle general

tasks, page 1, line 11 – page 2 – line 6),

executing the appliance operating system to control an appliance (e.g., operating system

to implement all tasks, including home finance, web browsing, television tuning, compact disk

playing and digital video disk playing, page 1, line 11 – page 2 – line 6).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Lee with the teachings of AAPA in order to facilitate the

use of the general operating system and an operating system handling an entertainment device, to

run concurrently within a single system.

6.   Claims 1- 4, 6, 7, 11, 12, 16-26 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Endo et al. 6,615,303 (Hereinafter Endo) in view of applicant's admitted prior art (AAPA).

7.   As per claims 1- 4, 6, 7, 11, 12, 16-26, Endo teaches the following:

a method comprising,

a computer readable medium tangibly embodying a plurality of instructions said plurality

of instructions including,

an information handling system comprising:

providing a plurality of operating systems on a single information handling device (e.g.,

A computer system is provided with a scheme to making the input and output device provided in

a computer in common for a plurality of operating system, in a multiple operating system control

unit operating a plurality of mutually distinct operating systems on one computer system,

abstract),

the plurality of operating systems including an appliance operating system to control the

information handling device to operate an appliance (e.g., However, similarly to a system for

operating a plurality of virtual computers (operating systems) in parallel on the large size

computer, if the general purpose OS and the real time OS can be operated in the same computer

system in a build-in system to switch the operating system as required, it may be possible to

achieve both of superior used interface and real time characteristics and reliability. Considering

improvement of performance of the microprocessor, operating a plurality of operating systems in

one computer system has not been a technology permitted only the large size computer, col. 2,

lines 11 – 22),

a general operating system to perform general information handling tasks (e.g., an office

work operating system (general purpose OS) to be typically used in typical personal computer

(PC) is provided, col. 1, lines 54 – 65),

appliance operating system is independent of the general operating system (e.g., Here, in

the frame memory, conflict of resource is avoided by making the a drawing region 317 for

general purpose OS storing image generated by the graphic driver 310 of the general purpose OS

and a drawing region 318 for the real time OS storing image generated by a graphic fdriver 312

of the real time OS independent or separated, col. 1, line 6 – col. 3, line 28),

executing the general operating system to control the information handling device to

perform general information handling tasks (general purpose OS) to be typically used in typical

personal computer (PC) is provided, col. 1, line 6 – col. 3, line 28),

executing appliance operating system and general operating system concurrently (e.g., A

computer system comprising: concurrently operating plural operating systems, col. 1, line 6 –

col. 3, line 28),

switching between operating systems (e.g., to switch the operating system as required,

col. 2, lines 11 – 22),

a data processor (e.g., processor, figure 1);

a bios to provide initial processor control (e.g., bios, figure 2);

a memory coupled to said processor (e.g., main memory, figure 2) and

a communications interface (e.g., input/output interface, figure 2),

switching includes discontinuing the execution of one operating system prior to executing

another operating system (e.g., The computer system includes a plurality of operating systems,

and OS switching unit for switching a plurality of operating systems. The OS switching means

makes reference to a preferential interrupt table on the basis of an interrupt factor for switching

to corresponding operating system and calls interrupt processing means incorporated in the

operating system, abstract),

executing includes checking for resource conflicts (e.g., in order to avoid conflict of data,

it is desirable to exclusively access the common memory using a semaphore function, col. 6,

lines 11 – 38),

including one or more appliances to be coupled to said at least one communications

interface (e.g., network, figure 1),

one or more appliances are to be coupled to said communications interface via a network

(e.g., network, figure 1),

said communications interface is an electrical interface (e.g., network, figure 1),

a resource conflict check is performed when said operating systems are executed (e.g., in

order to avoid conflict of data, it is desirable to exclusively access the common memory using a

semaphore function, col. 6, lines 11 – 38),

execution of said general operating system is terminated before switching to said

appliance operating system (e.g., The computer system includes a plurality of operating systems,

and OS switching unit for switching a plurality of operating systems. The OS switching means

makes reference to a preferential interrupt table on the basis of an interrupt factor for switching

to corresponding operating system and calls interrupt processing means incorporated in the

operating system, abstract),

execution of said appliance operating system is terminated before switching to said

general operating system (e.g., The computer system includes a plurality of operating systems,

and OS switching unit for switching a plurality of operating systems. The OS switching means

makes reference to a preferential interrupt table on the basis of an interrupt factor for switching

to corresponding operating system and calls interrupt processing means incorporated in the

operating system, abstract),

executing the general operating system includes checking for resource conflicts. (e.g., in

order to avoid conflict of data, it is desirable to exclusively access the common memory using a

semaphore function, col. 6, lines 11 – 38).

However, Endo does not specifically teach executing the appliance using the operating

system.

AAPA teaches the following:

executing the general operating system to control the information handling device to

perform general information handling tasks (e.g., general operating system to handle general

tasks, page 1, line 11 – page 2 – line 6),

executing the appliance operating system to control an appliance (e.g., operating system

to implement all tasks, including home finance, web browsing, television tuning, compact disk

playing and digital video disk playing, page 1, line 11 – page 2 – line 6).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Endo with the teachings of AAPA in order to facilitate the

use of the general operating system and an operating system handling an entertainment device, to

run concurrently within a single system.

8.   Claims 1, 2, 4, 7, 18, 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Solomon et al. 6,269,409 (Hereinafter Solomon) in view of applicant's admitted prior art

(AAPA).

9.   As per claims 1, 2, 4, 7, 18, 22 and 26, Solomon teaches the following:

a method comprising,

a computer readable medium tangibly embodying a plurality of instructions said plurality

of instructions including,

an information handling system comprising:

providing a plurality of operating systems on a single information handling device (e.g.,

The present invention provides an improved method and apparatus for <u>concurrent execution of</u>

<u>operating systems</u>. A software abstraction layer provides an interface that allows a first

operating system to run concurrently with a second operating system on the same data processing

system, in which the first operating system is in communication with the base machine <u>in the</u>

<u>data processing system</u>, abstract),

the plurality of operating systems including an appliance operating system to control the

information handling device to operate an appliance (e.g., The present invention provides an

improved method and apparatus for concurrent execution of operating systems. A software

abstraction layer provides an interface that allows a first operating system to <u>run concurrently</u>

<u>with a second operating system on the same data processing system</u>, in which the first operating

system is in communication with the base machine in the data processing system, abstract),

a general operating system to perform general information handling tasks (e.g., A

software abstraction layer provides an interface that allows a first operating system to run

concurrently with a second operating system on the same data processing system, in which <u>the</u>

<u>first operating system is in communication with the base machine in the data processing system</u>,

abstract),

appliance operating system is independent of the general operating system (e.g., This and

other types of architectures employed to allow for execution for multiple operating systems

depend on the emulation of one environment or the other. Such emulations can lead to

significant performance losses and incapabilities. <u>Therefore, it would be advantageous to have</u>

<u>an improved method and apparatus for concurrently executing multiple operating systems</u>, col. 2,

lines 5 – 11),   ·

executing the general operating system to control the information handling device to

perform general information handling tasks (e.g., the first operating system is in communication

with the base machine in the data processing system, abstract),

switching between operating systems (e.g., to switch the operating system as required,

col. 2, lines 11 – 22),

executing appliance operating system and general operating system concurrently A

software abstraction layer provides an interface that allows a first operating system to <u>run</u>

<u>concurrently with a second operating system on the same data processing system</u>, abstract),

a data processor (e.g., processor, figure 2);

a bios to provide initial processor control (e.g., base machine, figure 3);

a memory coupled to said processor (e.g., main memory, figure 2) and

a communications interface (e.g., bus, figure 2).

However, Solomon does not specifically teach executing the appliance using the

operating system.

AAPA teaches the following:

executing the general operating system to control the information handling device to

perform general information handling tasks (e.g., general operating system to handle general

tasks, page 1, line 11 – page 2 – line 6),

executing the appliance operating system to control an appliance (e.g., operating system

to implement all tasks, including home finance, web browsing, television tuning, compact disk

playing and digital video disk playing, page 1, line 11 – page 2 – line 6).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Solomon with the teachings of AAPA in order to facilitate

the use of the general operating system and an operating system handling an entertainment

device, to run concurrently within a single system.

10.   Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Endo and AAPA.

11.   As per claim 15, Endo and AAPA do not specifically teach that the communication

interface is a wireless interface. "Official Notice" is taken that both the concept and advantages

of providing the wireless communication interface is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to include wireless communication mechanism with the teachings of Lee, Solomon or

Endo in order to facilitate different kind of communication mechanisms.

Response to Arguments

12.   Applicant's arguments with respect to claims 1-27 have been considered but are moot in

view of the new ground(s) of rejection.

Conclusion

13.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Haresh Patel whose telephone number is (703) 605-5234. The

examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 10:00 am to

8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Follansbee, can be reached at (703) 305-8498.

The appropriate fax phone number for the organization where this application or

proceeding is assigned is (703) 306-5404.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 305-3900.

Haresh Patel

October 22, 2003.

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100